

Ron Hanifan

# Concise Dictionary of Engineering

A Guide to the  
Language of Engineering

 Springer

Ron Hanifan  
Del Rio, TN, USA

Portions of this Work previously appeared in *The Engineering Language*, 978-1-606-50206-8 (originally published in 2010 by Momentum Press).

ISBN 978-3-319-07838-0 ISBN 978-3-319-07839-7 (eBook)  
DOI 10.1007/978-3-319-07839-7  
Springer Cham Heidelberg New York Dordrecht London

Library of Congress Control Number: 2014942313

© Springer International Publishing Switzerland 2014

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed. Exempted from this legal reservation are brief excerpts in connection with reviews or scholarly analysis or material supplied specifically for the purpose of being entered and executed on a computer system, for exclusive use by the purchaser of the work. Duplication of this publication or parts thereof is permitted only under the provisions of the Copyright Law of the Publisher's location, in its current version, and permission for use must always be obtained from Springer. Permissions for use may be obtained through RightsLink at the Copyright Clearance Center. Violations are liable to prosecution under the respective Copyright Law.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

While the advice and information in this book are believed to be true and accurate at the date of publication, neither the authors nor the editors nor the publisher can accept any legal responsibility for any errors or omissions that may be made. The publisher makes no warranty, express or implied, with respect to the material contained herein.

Printed on acid-free paper

Springer is part of Springer Science+Business Media ([www.springer.com](http://www.springer.com))

Copyright material

**Automated Inspection Equipment**

Measuring or gaging instruments that make a pass or fail determination of a dimensional characteristic without human interaction. Automated inspection equipment is usually integral to a production line and is often computer controlled.

**Automated Path Analysis**

A software technique that scans source code in order to design an optional set of test cases to exercise the primary paths in a software module.

**Automated Radio**

A radio with capability for automatically controlled operation by electronic devices that require little or no operator intervention.

**Automatic**

Pertaining to a process or device that, under specified conditions, functions without intervention by a human operator.

**Automatic Data Processing (ADP)**

(1) An interfacing assembly of procedures, processes, methods, personnel, and equipment to perform automatically a series of data processing operations that result in a change in the semantic content of the data. (2) Data processing, by means of one or more devices, (a) that uses common storage for all or part of a computer program, and also for all or part of the data necessary for execution of the program; (b) that execute user-written or user designated programs; (c) that perform user designated symbol manipulation, such as arithmetic operations, logic operations, or character-string manipulations; and (d) that can execute programs that modify themselves during their execution. Automatic data processing may be performed by a standalone unit or by several connected units. (3) Data processing largely performed by automatic means. (4) That branch of science and technology concerned with methods and techniques relating to data processing largely performed by automatic means.

**Automatic Gain Control**

A process or means by which gain is automatically adjusted in a specified manner as a function of input level or another specified parameter.

**Automatic Test Equipment (ATE)**

(1) Test, measurement, and diagnostic equipment that performs a program to test functional or static parameters, to evaluate the degree of performance degradation, or to perform fault isolation of unit malfunctions. The decision making, control, or evaluative functions are conducted with minimal reliance on human intervention. (2) An equipment that is designed to automatically conduct analysis of functional or static parameters, evaluate the degree of performance degradation, and perform isolation of item malfunctions.

**Automatic Testing**

The process by which the localization of faults, possible prediction of failure, or validation that the equipment is operating satisfactorily is determined by a device that is programmed to perform a series of self-sequencing test measurements without the necessity of human direction after its operations have been initiated.

**Automation**

(1) The implementation of processes by automatic means. (2) The investigation, design, development, and application of methods of rendering processes automatic, self-moving, or self-controlling. (3) The conversion of a procedure, a process, or equipment to automatic operation.